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PHARMACEUTICAL PREPARATION, , CONTAINING SULFUR, MUSTARD SEEDS AND A CUPRIC SALT, FOR TREATING RHEUMATIC SYNDROMES

This invention relates to a pharmaceutical preparation offering significantly improved properties in the treatment of rheumatic syndromes, especially rheumatism, arthritis, sciatica and/or gout, a cutaneous form of administration of a pharmaceutical preparation, a foot powder, as well as a method for producing a pharmaceutical preparation and, respectively, a foot powder.

Existing literature describes various active agents used in treating rheumatic and rheumatoid syndromes. For example, in a special supplement to "Zeitschrift für Ärztliche Fortbildung" (journal for advanced medical training), vol. XIII, 15 Nov 1959, No. 150, pages 798 to 802, titled "the practical physician", H. Seliger states that it is especially colloidal sulfur that has proved effective in treating rheumatism, arthritis and sciatia, among others. Beneficial additives mentioned by him include camphor and camomile flowers. H. Seliger makes special reference to a pharmaceutical preparation marketed by the N. Gschwend company of Herisau which contains the three active ingredients mentioned together with talcum as the carrier substance.

The monograph D. IT07.10.4 referred to in the bibliography of the IKS Monthly of 12/1994 describes mustard seed and camomile flowers as pharmaceutically effective substances in the cutaneous treatment of arthritis and rheumatic disorders.

Then there are a number of sulfur-containing preparations, indicated for "rheumatism", in the form of bath oils and additives with names such as "Soufrol", "Sulfur-Oil-Bath" and "Leukona Sulfomoor-Bath".

This invention is aimed at introducing another pharmaceutical preparation with good and/or improved properties for the treatment of rheumatic syndromes.

The active agents contained in the pharmaceutical preparation according to this invention for the treatment of rheumatic syndromes and especially rheumatism, arthritis, sciatica and/or gout include at least sulfur, mustard seed and a cupric salt.

The characterizing features of other preferred pharmaceutical compositions are specified in the subclaims.

The invention also covers a cutaneous form of administration, for the treatment of rheumatic syndromes, of a pharmaceutical preparation per this invention. The cutaneous form of administration preferably employs a fine-particle foot powder specially prepared for application on the sole of the foot.

The preferred fine foot powder is sprinkled into shoes, socks, stockings or liners whereupon the active ingredients are absorbed into the blood stream through the sole of the foot. This is a unique form of applying a rheumatism antidote and constitutes a particular aspect directly associated with the special combination of the individual active ingredients as proposed by this invention. The functional mechanism is based on the fact that, as the substance makes contact with live and keratinous tissue (that being the sole of the foot), a number of chemical transformations take place, aided by the effect of natural aspiration, even natural perspiration, leading to corresponding reactions in two

ways, i.e. by way of both the blood stream and the nerve tissue. As an obvious prerequisite, the active agents must be adequately resorbed by the skin, which is assured by the particular combination of active ingredients per this invention. By virtue of the above-mentioned transdermal absorption the organism will only take up exactly the amount of active substances that it needs.

Key components of the compounds introduced by this invention are such active ingredients, present in trace amounts only, as cupric salt which preferably consists of copper sulfate, and potassium iodate, to both of which a certain catalytic effect is attributed. Correspondingly, these two substances, in conjunction with talc as the carrier substance, form a so-called "catalytic powder" which is added in minuscule amounts to the other active agents including in particular sulfur and mustard seed.

The process of producing the pharmaceutical preparation begins with a first step in which talc is mixed with sulfur as the active agent plus, as an option, camphor and camomile flowers. For the blending operation the active ingredients are prepowderized and, of course, the talc, or talcum, constituting the carrier substance, is pulverulent on its part.

As the second step of the process, a minuscule amount of the above-mentioned so-called "catalytic powder" is added to the mixture. The catalytic powder again consists of talc as well as mustard seed, the cupric salt preferably in the form of copper sulfate, and, as an option, potassium iodate.

The advantage of adding potassium iodate derives in particular from the fact that it stabilizes the pharmaceutical preparation for use in hot or tropical regions. The talcum carrier substance is known to be less than absolutely stable or suitable for use in tropical or hot zones, which makes the addition of potassium iodate necessary or advisable.

The following explains this invention in more detail with the aid of the production-process examples given below and with reference to a sample composition.

As mentioned above, the production follows a bipartite process, i.e. the pharmaceutical preparation according to this invention is produced in two steps, dividing the composition into two parts.

<u>Part 1:</u>	
Sulfur:	Approx. 30 – 50 % by weight, preferably 30 – 40 % by weight;
Camomile:	0 – 10 %, preferably 5 – 10 %;
Camphor:	0 – 25 %, preferably 15 – 25 %;
Talcum (balance):	20 – 65 %.
Total, Part 1:	85 – 95 %

<u>Part 2:</u>	
Mustard seed:	0.5 – 2.5 %, preferably 1 – 1.5 %;
Copper sulfate:	0.05 – 0.3 %, preferably 0.1 – 0.15 %;
Potassium iodate:	0 – 0.15 %, preferably 0.05 – 0.1 %
Talcum:	3 – 13 %
Total, Part 2:	5 – 15 %

The quantities expressed in percent by weight relate to the total weight of the preparation composed of Part 1 and Part 2.

For producing the preparation, the first step is to mix Part 1 for which purpose the individual components are ground into ultrafine powder and screened, then blended with talc in a mixer, for instance a so-called 4-way mixer, for about 15 minutes.

Part 2 is produced by first grinding copper sulfate and, if applicable, potassium iodate in a mortar using a pestle until a homogeneous powder is obtained. These components are then sifted, together with talc and mustard seed, for instance through a 0.5mm-mesh screen and are then added to and blended with the mixture of Part 1. This can again be performed in a 4-way mixer, in this case for about 20 minutes.

Of course, the above quantities are indicated as examples only, subject to variation and modification depending on the application i.e. form of administration and on the ailment to be treated. Likewise, the mixtures can naturally be produced by methods deviating from that described above. It is important, however, that especially when a foot powder is produced, the different components making up the foot powder be thoroughly mixed

so as to result in a fine powder mixture.

It is also possible to administer the preparation in the form of a cream, paste or the like, containing the pharmaceutical preparation for instance as an ultrafine powder together with carrier substances and other additives.

Apart from the indications first above mentioned, the pharmaceutical preparations according to this invention have also been found to be suitable for application in the case of the following disorders or ailments:

Sciatia, muscular rheumatism, arthritis, phlebitis (inflammation of a vein), excessively high or low blood pressure, paralysis deformans, paralysis post myelitis, poliomyelitis, paralysis cerebralis, paralysis post nephritis vel uraemia, paralysis postlaesion cause alicuia mechanica, eczema, and x-ray burns.